

87240

S/034/60/000/212/002/003  
E032/E114

## Radar Observations of Perseids in 1959

Table 1

Date	Receiver I	Receiver II	S
10 August 1959	14.1	9.6	1.57 (5.8)
11 August 1959	11.2	9.3	1.24 (4.1)
12 August 1959	14.6	9.5	1.62 (8.0)
13 August 1959	18.2	11.1	1.58 (7.2)
14 August 1959	14.0	8.4	1.65 (7.5)
15 August 1959	8.9	6.0	1.55 (7.5)
Average	13.5	9.0	1.54 (40.1)

The values given in the above table are not corrected for sporadic background. The appropriate correction will be of the order of 9%. Table 2 gives the range distribution of the meteors, and the figures are given in the form of fractions in which the numerator represents the number of meteors and the denominator the average distance.

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## Radar Observations of Perseids in 1959

Table 2

R, km.	$\frac{N}{R}$ av.	R, km.	$\frac{N}{R}$ av.
50 ≤ R < 100	1/85	400 ≤ R < 450	99/415
100 ≤ R < 150	7/125	450 ≤ R < 500	38/470
150 ≤ R < 200	41/175	500 ≤ R < 550	35/515
200 ≤ R < 250	54/215	550 ≤ R < 600	12/555
250 ≤ R < 300	37/270	600 ≤ R < 650	2/605
300 ≤ R < 350	84/320	650 ≤ R < 700	2/670
350 ≤ R < 400	94/365	700 ≤ R < 750	-
750 ≤ R < 800	1/790	900 ≤ R < 950	9/930
800 ≤ R < 850	10/810	950 ≤ R < 1000	-
850 ≤ R < 900	1/850	1000 ≤ R < 1050	1/1025

The duration of the radio echoes from meteors  $\tau$  was also measured for  $\tau \geq 0.4$  sec. The results are given in Table 3, where the Card 3/4

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Radar Observations of Perseids in 1959

numerators refer to the number of meteors and the denominators to the average duration of the radio echo.

Table 3

$\frac{N}{\tau_{av.}}$	$0.4 \leq \tau < 1.0$	$1.0 \leq \tau < 5.0$	$5.0 \leq \tau < 10$	$\tau \geq 10$
receiver I	36/0.62	26/2.26	8/7.75	3/1366
receiver II	15/0.73	13/2.66	5/8.10	

The following persons took part in the observations:

V.N. Korpusov, A.D. Orlyanskiy, G.N. Solov'yev, E.V. Tkachenko, and B.F. Chernyayev.

There are 3 tables and 3 Soviet references.

ASSOCIATION: Institut prikladnoy geofiziki AN SSSR  
(Institute of Applied Geophysics, AS USSR)

Card 4/4

SUBMITTED: September 21, 1959

43436

3,5110  
3,2440

S/169/62/000/011/062/077  
D228/D307

AUTHORS: Poloskov, S.M. and Katasev, L.A.

TITLE: Meteoric methods of studying the upper atmosphere  
in the light of rocket and satellite data

PERIODICAL: Referativnyy zhurnal, Geofizika, no. 11, 1962, 7,  
abstract 11G38 (Byul. Komis. po kometam i meteoram.  
Astron. soveta AN SSSR, no. 6, 1961, 11-24)

TEXT: It is pointed out that the meteoric method, being  
distinguished by its simplicity and "universality", may substantially  
assist the study of latitudino-longitudinal and seasonal varia-  
tions of the atmosphere's thermodynamic parameters at heights of  
60-120 km. A formula for determining the density of the atmosphere  
is derived. This formula requires no knowledge of the magnitudes  
of braking of a meteor, the mass of which is eliminated by means of  
the luminescence equation:

$$\rho = kv^{-4}I \left[ \int_{t_k}^t Idt \right]^{-2/3}, \text{ where } k = 2.07 \frac{\Omega \delta^{2/3}}{\Delta \tau^{1/3}}$$

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S/169/62/000/011/062/077  
D228/D507

Meteoric methods ...

( $\rho$  is the atmosphere's density,  $t$  is the time,  $I$  is the meteor's intensity of luminescence,  $Q$  is the energy necessary for the heating and subsequent evaporation of 1 g of meteoric matter,  $A$  is the heat transfer factor,  $v$  is the meteor's speed, and  $\delta$  is the meteoric body's density). It is noted that the intensive braking of weak meteors can be explained without resorting to the "loose" meteor conception put forward by Whipple and Jaccia. A formula is given for the determination of the height of the homogeneous atmosphere  $H_0^*$

$$H_0^* = - 3v_0 \left( \int_{t_k}^{t_0} I dt / I_0 \right) x \\ \times \left\{ 1 - \left[ \alpha \left( \int_{t_k}^{t_H} I dt / \int_{t_k}^{t_0} I dt \right)^{1/3} \right] \right\} \cos Z$$

In it  $Z$  is the radiant zenith distance,  $\alpha$  is the proportionality constant, and the index "o" denotes the point of the trajectory for which  $H_0^*$  is calculated. Knowing the molecular weight of air, the

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Meteoric methods ...

S/169/62/000/011/062/077  
D228/D307

acceleration of gravity, and the gas constant, the atmosphere's temperature T can be determined from  $H_0^*$ . A graph of the temperature-altitude distribution in the height interval from 70 to 110 km is given; it was computed by the meteoric method. Various rocket data on the temperature at the same heights are cited for purposes of comparison. 17 references. IX

[Abstracter's note: Complete translation]

Card 3/3

KATASEV, L.A.

Theory of the determination of the height of a homogeneous atmosphere and the extra-atmospheric velocity of a meteor. Astron. zhur. 39 no.4:750-752 Jl-Ag '62. (MIRA 15:7)

1. Institut prikladnoy geofiziki AN SSSR.  
(Meteors) (Atmosphere)

BABADZHANOV, P.B.; KATASEV, L.A.; KONOPLEVA, V.P.; KRAMER, Ye.N.

Atmospheric density, temperature, and pressure according to photographic  
observations of meteors. Geofiz. biul. no.13:43-48 '63. (MIRA 17:2)

5/205/87  
D207/D307

AUTHOR: Kataev, L.A.

TITLE: On the influence of terrestrial atmosphere on motion of meteor particles

PERIODICAL: Geomagnetizm i aeronomiya, v. 5, no. 4, 1955, p. 523

TEXT: It is shown that the retardation of meteor particles in the atmosphere is governed principally by the particles of the earth's ionosphere; the mass of the latter is roughly constant. Calculations show that the influence of meteor particles on the motion of ionospheric particles is negligible. The region of influence of meteor particles is roughly 10 km. For particles with masses ranging from  $10^{-10}$  to  $10^{-12}$  g/cm<sup>3</sup>, about 10 km. This region extends over 40 km at 10 km altitude. At 100 km, the influence of this source of matter on the atmosphere in space the earth is surrounded by a meteor dust atmosphere, the upper boundary of which is difficult to determine but will be at least 100 km.

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5.1233  
5.267, 5.317

On the influence of ...

several structural indicators. It is shown that the values of the orbital elements are strongly affected by the density of the atmosphere and that there is transfer of material between the atmosphere and the sun. Acknowledgements are made to Dr. V. V. Kharlamov for discussion of this work and to Prof. G. V. Slobodchikov for calculations. There are 6 figures and 3 tables.

ASSOCIATION: Institut prikladnoy geofiziki (Applied Geophysics Institute)

SUBMITTED: October 29, 1962

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ACCESSION NR: AT4024454

S/3010/63/000/013/0043/0048

AUTHOR: Babadzhanov, P. B.; Katasev, L. A.; Konopleva, V. P.; Kramer, Ye. N.

TITLE: Determination of atmospheric density, temperature and pressure from photographic observations of meteors

SOURCE: AN SSSR. Mezhdunovostvennyy geofizicheskiy komitet. Geofizicheskiy byulleten', no. 13, 1963, 43-48

TOPIC TAGS: meteorology, meteor, atmospheric density, atmospheric pressure, atmospheric temperature, homogeneous atmosphere

ABSTRACT: Atmospheric density has been determined by Ye. N. Kramer on the basis of 50 photographs of meteors; P. B. Babadzhanov has determined atmospheric density and the height of the homogeneous atmosphere from 34 photographs of meteors; and V. P. Konopleva has obtained similar information from 10 meteor photographs. Kramer's formula is cited and a table of his results given. Babadzhanov's formula for density is also given and a table presents his results. Konopleva's formula and results are also given. Table 4 in the original compares the data obtained by the three authors for intervals of height of 5 km from 65 to 115 km. The results also are shown in Fig. 1 of the Enclosure. The results of all three agree well with Jacchia (Technical Report No. 4, Harvard Reprint, Ser. II-32, 1949) but

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ACCESSION NR: AT4024454

systematically differ from the standard atmosphere tables published in the SSSR (1960). The reasons for the difference are discussed. The formula used by Babadzhanov and Konopleva for determining the height of the homogeneous atmosphere ( $H_x$ ) is cited and their results are shown in Table 1 of the Enclosure. These values were used to compute absolute temperatures; results are shown in Fig. 2 of the Enclosure. If density and temperature or the height of the homogeneous atmosphere are known, it is possible to compute pressure by using the formula cited; results are shown in Fig. 3 of the Enclosure. It is shown that the meteor method makes it possible to determine atmospheric density, temperature and pressure at heights of 70-115 km. Orig. art. has: 4 figures, 13 formulas and 6 tables.

ASSOCIATION: MEZHDUVENOMSTVENNYY GEOFIZICHESKIY KOMITET AN SSSR (Interdepartmental Geophysical Committee)

SUBMITTED: 00 DATE ACQ: 16Apr64 ENCL: 03  
SUB CODE: ES NO REF Sov: 003 OTHER: 001

Card 2/5

AIRAMOVSKIY, M.N., kandidat veterinarnykh nauk; KATASHEVA, Yu.Ye.,  
Veterinarnyy vrach; VOLKOVA, A.D., veterinarnyy tekhnik.

Sodium fluosilicate in the treatment of parascariasis in horses.  
Veterinariia 33 no.6:41-43 Je '56. (MLRA 9:8)

1. Belorusskaya nauchno-issledovatel'skaya veterinarnaya opytnaya  
stantsiya.

(Horses--Diseases)  
(Ascarids and ascariasis)  
(Sodium fluosilicates)

KATASHIN, L.V.; YEGOROV, A.K.; BESSONOV, S.V.

Using stage and jet flotation in treatment of lead-zinc ores.  
Izv. vys. ucheb. zav.; tsvet. met. no.2833-38 '58. (MIRA 11:8)

1. Irkutskiy gornometallurgicheskiy institut. Kafedra obogashcheniya  
poleznykh iskopayemykh.  
(Flotation) (Lead ores) (Zinc ores)

KATASHIN, L. V.

Cyanide substitutes in dressing certain Transbaikalia mixed  
lead and zinc ores. Trudy Vost. Sib. fil. AN SSSR no.41:57-62  
'62. (MIRA 15:10)

1. Irkutskiy politekhnicheskiy institut.

(Flotation—Equipment and supplies)  
(Lead ores) (Zinc ores)

KATASHIN, L.V.; SHCHERBAKOVA, S.V.

One variant to the two-stage flow sheet for the dressing of  
lead-zinc ores. Trudy IPI no.20:105-110 '63.

(MIRA 18:2)

VINOGRADOV, G.A.; KATASHINSKIY, V.P.

Investigating specific pressure during the rolling of metal pow-  
ders. Porosh.met. 3 no.3:30-36 My-Je '63. (MIRA 17:3)

1. Institut metallokeramiki i spetsial'nykh splavov AN UkrSSR.

VINOGRADOV, G. A.; KATASHINSKIY, V. P.

"Verdichtungsmechanismus beim walzen von metallpulvern."

report submitted for 3rd Intl Conf on Powder Metallurgy, Eisenach, E. Germany,  
13-15 May 1965.

Kiev, UkrSSR.

JL 20251-66 EWP(e)/EWT(m)/EWP(t)/EWP(k) JD/MW

ACC NR: AP5013246

SOURCE CODE: UR/0226/65/000/mw/gm/

AUTHOR: Katashinskiy, V. P.; Vinogradov, G. A.

ORG: Institute of Problems of the Science of Materials, AN UkrSSR (Institut problem materialovedeniya AN UkrSSR)

TITLE: Investigation of the compressibility of metal powders during rolling

SOURCE: Poroshkovaya metallurgiya, no. 5, 1965, 9-16

TOPIC TAGS: metal rolling, iron powder, powder metal molding, high pressure extrusion, metallurgic process

ABSTRACT: The process of molding rolled stock from iron powder and a mixture of powders has been investigated. It was found that the granulometric composition of iron powder within investigated limits does not affect the dependence of the density of the maximum specific pressure of rolling. The feeding of powder into the deformation zone, which has a strong effect on the thickness of the strip, does not affect the density of the maximum specific pressure dependence. There is a definite density limit for each powder and each mixture of powders, depending on the plasticity of components. It is practically impossible to exceed this limit with the ordinary method of rolling. Orig. art. has: 7 figures and 3 tables.  
[Based on author's abstract.]

SUB CODE: 11, 13/ SUBM DATE: 04Apr64/ ORIG REF: 005/ OTH REF: 001/  
Card 1/1 FWD

Z

KATASHINSKIY, V.P.; VINOGRADOV, G.A.

Investigating the process of rolling metal powders with a single  
driving roller. Porosh.met. 5 no.6:1-4 Je '65.

(MIRA 18:8)

1. Institut problem materialovedeniya AN Ukr.SSR.

"APPROVED FOR RELEASE: 06/13/2000

CIA-RDP86-00513R000721110017-1

APPROVED FOR RELEASE: 06/13/2000

CIA-RDP86-00513R000721110017-1"

"APPROVED FOR RELEASE: 06/13/2000

CIA-RDP86-00513R000721110017-1

APPROVED FOR RELEASE: 06/13/2000

CIA-RDP86-00513R000721110017-1"

L 18874-66 EWP(k)/EWT(m)/EWP(e)/EWP(t) IJP(c) JD/HW  
ACC NR: AP5022543 SOURCE CODE: UR/0226/65/000/009/0034/0039

AUTHOR: Vinogradov, G. A.; Katashinskiy, V. P.

ORG: Institute of the Science of Material Problems, AN UkrSSR (Institut problem materialovedeniya AN UkrSSR) 50 6

TITLE: Angular parameters of the process of rolling metal powders 15, 44.55

SOURCE: Poroshkovaya metallurgiya, no. 9, 1965, 34-39 11

TOPIC TAGS: metal powder, aluminum powder, iron powder, metal rolling, pressure effect, deformation rate

ABSTRACT: Regularities of changes in the central angle  $\alpha_p$  depending on the maximum specific pressure during rolling of aluminum, iron, copper, and nickel powders, as well as the regularity of the relation of the angle  $\alpha_p$  to the thickness of the strip during changes under condition of feeding the powder in the deformation zone have been established. The nature of changes and magnitude of the neutral angle on rolling iron, copper, and nickel powders are shown. Orig. art. has: 4 figures, 1 formula, and 1 table. [Based on authors' abstract.] [NT]

SUB CODE: 11/3/SUBM DATE: 15Aug64/ ORIG REF: 014/ OTH REF: 601/

Card 1/1 - 6

BUKHANEVICH, Boris Arkad'yevich; KATASHOVA, R.I., red.; PONOMAREVA,  
A.A., tekhn. red.

[Factors contributing to the growth of labor productivity  
and the calculation of their influence] Faktory rosta proiz-  
voditel'nosti truda i raschet ikh vlianiia. Moskva, Eko-  
nomizdat, 1963. 85 p. (MIRA 16:9)  
(Labor productivity)

VOROB'YEV, Yevgeniy Aleksandrovich; KATASHOVA, R.I., red.;  
TOLYPINA, O.N., red.; PONOMAREVA, A.A., tekhn. red.

[Methodological problems of measuring and analyzing labor productivity] Metodologicheskie voprosy izmerenija i analiza proizvoditel'nosti truda. Moskva, Ekonomizdat, 1963.  
166 p. (MIRA 17:1)

(Labor productivity)

ONIKA, D.G., doktor tekhn. nauk; DUBROVSKIY, Yu.N., red.;  
KATASHOVA, R.L., red.; TOLYPINA, O.N., red.

[Problems of production and management] Problemy organizatsiy proizvodstva i truda; materialy. Pod red. D.G.Onika.  
Moskva, Ekonomizdat, 1963. 259 p. (MIRA 16:12)

1. Mezhdunarodnaya konferentsiya institutov i organizatsii yevropeyskikh sotsialisticheskikh stran, zanimayushchikhsya voprosami ekonomiki i organizatsii proizvodstva i truda, Warsaw, 1962. 2. Nauchno-issledovatel'skiy institut truda Gosudarstvennogo komiteta Soveta Ministrrov SSSR po voprosam truda i zarabotnoy platy (for Onika).  
(Europe, Eastern--Industrial organization--Congresses)

YEGIAZARYAN, Gevork Ashotovich; KATASHOVA, R.I., red.

[Material incentives for new technology] Material'noe  
stimulirovanie za novuiu tekhniku. Moskva, Ekonomika,  
(MIRA 18:3)  
1964. 181 p.

MIL'NER, Bentsion Zakharovich; KATASHOVA, R.I., red.; KARLOVA,  
L.V., tekhn. red.

[Establishing norms for production maintenance] Normiro-  
vaniye rabot po obsluzhivaniyu proizvodstva. Moskva, Eko-  
nomika, 1964. 184 p. (MIRA 17:3)

TOLCHENOV, Trofim Vasil'yevich[deceased]; GORDON, Kh.I., red.;  
KATASHOVA, R.I., red.

[Establishing work norms in an enterprise] Normirovanie  
truda na predpriatii. Moskva, Ekonomika, 1964. 215 P.  
(MIRA 17:11)

BATKAYEV, Rafik Abdulovich; MARKOV, Vladimir Ivanovich; KATASHOVA,  
R.I., red.

[Differentiation of wages in industry in the U.S.S.R.]  
Differentsiatsiya zarabotnoi platy v promyshlennosti  
SSSR. Moskva, Ekonomika, 1964. 238 p. (MIRA 18:1)

KATS, Adol'f Iosifovich; KATASHOVA, R.I., red.

[Labor productivity in the U.S.S.R. and the main capitalist countries] Proizvoditel'nost' truda v SSSR i glavnnykh kapitalisticheskikh stranakh. Moskva, Ekonomika, 1964. 245 p.  
(MIRA 17:4)

BUGROV, Aleksandr Porfir'yevich; CHUBAROV, Georgiy Stepanovich;  
KATASHOVA, R.I., red.; TOLYPINA, O.N., red.

[Branch work norms] Otraslevye normy truda. Moskva, Ekonomika, 1964. 246 p.  
(MIRA 17:9)

KOSTAKOV, Vladimir Georgiyevich; LITVYAKOV, Pavel Petrovich;  
KATASHOVA, R.I., red.; MOROZOVA, E.T., red.

[The balance of labor; its nature and the method for working it out] Balans truda; soderzhanie i metodika razrabotki. Moskva, Ekonomika, 1965. 310 p. (MIRA 18:8)

SOV/124-58-8-9159

Translation from: Referativnyy zhurnal, Mekhanika, 1958, Nr 8, p 120 (USSR)

AUTHOR: Katasonov, A.M.

TITLE: The Propagation of Spherical Thermoviscoelastic Perturbations  
(Rasprostraneniye sfericheskikh termo-vyazko-uprugikh voz-  
mushcheniy)

PERIODICAL: Vestn. Mosk. un-ta. Ser. matem., mekhan., astron., fiz.,  
khimii, 1957, Nr 3, pp 39-49  
*12*

ABSTRACT: The author examines a medium in which the stresses present are linear functions of the strains and strain rates. For the case of such a medium he investigates the propagation of perturbations in an infinite space having a spherical cavity. At the initial time instant, at the boundary of the cavity a pressure  $P$  is applied and the temperature changes abruptly, said pressure and the temperature thereafter remaining constant. By virtue of several additional assumptions the author enables himself to break the equations down and deal with the problem of determining the temperature field independently of the dynamic problem involved. The expression that he obtains for the temperature distribution is substituted in the dynamic equation,

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*Katedra Teorii uprugosti Moscow State Univ*

SOV/124-58-8-9159

The Propagation of Spherical Thermoviscoelastic Perturbations

which he then proceeds to solve with the aid of operational calculus. In the concluding section of the paper he examines the specific case of an elastic medium concerning which the assumption is made that  $P \geq 0$ . Here, at the instant immediately succeeding the initial one, stresses already exist throughout the whole of the space, having arisen as a result of the fact that the temperature change is transmitted instantaneously to all the points of the space in accordance with the linear law of heat conductivity. Moreover, spreading at the speed of sound out from the cavity is a longitudinal elastic wave at the front of which the stresses encountered suffer finite discontinuities, the magnitudes of which decrease at a rate that is inversely proportional to the distance of the wave front from the center of symmetry of the cavity.

S.S. Grigoryan

Card 2/2

KATASOV, A.M., Cand Phys-Math Sci-- (iss) "On the expansion of thermo-  
elastic and thermo-tensile-elastic stresses." Leningrad, 1958. 4 pp (Moscow  
State Univ im L.V.Lomonosov), 100 copies (KL-47-58, 130)

KATASONOV, A.M.

An axisymmetric dynamic problem in thermoelasticity as applied  
to a semispace. Vest Mosk. un. Ser. mat., mekh., astron., fiz.,  
khim. 14 no.2:33-38 '59 (MIRA 13:3)

1. Kafedra teorii uprugosti Moskovskogo gosuniversiteta.  
(Elasticity)

ZHELTVAI, V. V., KATASONOV, N. S. and FABRIKANT, Yu. V. (The Trans-Carpathian Oblast' Veterinary Bacteriological Laboratory, Ukrainian SSR). (Abstracted by V. A. ALIKAYEV)

"Improving the technique of determining carotene in blood sera."..  
Veterinariya, vol. 39, no. 2, February 1962 pp. 78

HEGORUSETS, B.M.; KATASONOV, N.Ye.

Improvement of working conditions in foundries. Lit. proizv.  
no. 8:16 Ag '60. (MIRA 14:2)  
(Foundry--Hygienic aspects)

TEMPER, A.S., mayor meditsinskoy sluzhby; BOKHANOV, H.V., mayor meditsinskoy sluzhby; ZAGRANICHNYY, L.A., mayor meditsinskoy sluzhby; YEZHOU, A.S., podpolkovnik meditsinskoy sluzhby; KATASONOV, S.V., podpolkovnik meditsinskoy sluzhby

Role of prophylactic additions of vitamins to food in the decrease of morbidity. Voen.-med.zhur. no.3:49-51 Mr '61. (MIRA 14:7)  
(VITAMINS) (SOLDIERS—DISEASES AND HYGIENE)

KATASONOV, Ye.M.

Sediments in troughs in frozen soils of the Yana coastal lowland.  
Geol. i geofiz. no.2:103-112 '60. (NIRA 13:9)

1. Severo-Vostochnoye otdeleniye Institut merzlotovedeniya AN SSSR.  
(Yakutia--Sediments (Geology))

KATASONOV, Ye. M., otv. red.; KUDASHEVA, I.G., red. izd-va;  
SIMKINA, G.S., tekhn. red.

[Conditions and characteristics of the development of frozen layers in Siberia and the Northeast] Usloviia i osobennosti razvitiia merzlykh tolshch v Sibiri i na Severo-Vostoke, Moskva, Izd-vo Akad. nauk SSSR, 1963. 118 p. (MIRA 16:7)

1. Akademiya nauk SSSR. Sibirskoye otdeleniye. Institut merzlotovedeniya.  
(Siberia--Frozen ground)

GRAVE, N.A., doktor geogr.nauk; GAVRILOVA, M.K.; GRAVIS, G.F.;  
KATASONOV, Ye.M.; KLYUKIN, N.K.; KOREYSHA, M.M.;  
KORNILOV, B.A.; CHISTOTINOV, L.V.; TORKHANOVA, Z.A., red.

[Collection of articles] Sbornik statei. Moskva, Nauka,  
No.14. 1964. 140 p. (MIRA 17:12)

1. Akademiya nauk SSSR. Mezhdunarovstvennyy komitet po  
provedeniyu Mezhdunarodnogo geofizicheskogo goda. IX razdel  
programmy MGG. Glyatsiologiya.

CHERTAVSKIKH, A.K., kand.tekhn.nauk; TIKHONOV, B.S., kand.tekhn.nauk;  
KATASONOVA, V.P., inzh.

Bell-type and shaft furnaces for the annealing of sheet and strip.  
TSvet. met. 34 no. 4:61-65 Ap '61. (MIRA 14:4)  
(Furnaces, Heat-treating) (Annealing of metals)

KATASONOVA, V.T., assistent

Effect of arbitrary loading on the elastic membrane covered half space. Nauch. trudy MTILP no.24:263-271 '62. (MIRA 16:7)

1. Kafedra teorii mekhanizmov i mashin i teoreticheskoy mekhaniki  
Moskovskogo tekhnologicheskogo instituta legkoy promyshlennosti.  
(Elastic plates and shells)

KATASONOVA, V.T., assistant

Membrane covered elastic half space under the action of a  
load uniformly distributed over the area of a rectangle.  
Nauch. trudy MTILP no.26:257-263 '62. (MIRA 17:5)

1. Kafedra teorii mekhanizmov i mashin i kafedra teoreticheskoy  
mekhaniki Moskovskogo tekhnologicheskogo instituta legkoy  
promyshlennosti.

KATASOLOVA, V.T., kand. fiziko-matematicheskikh nauk, starshiy pravivatel'

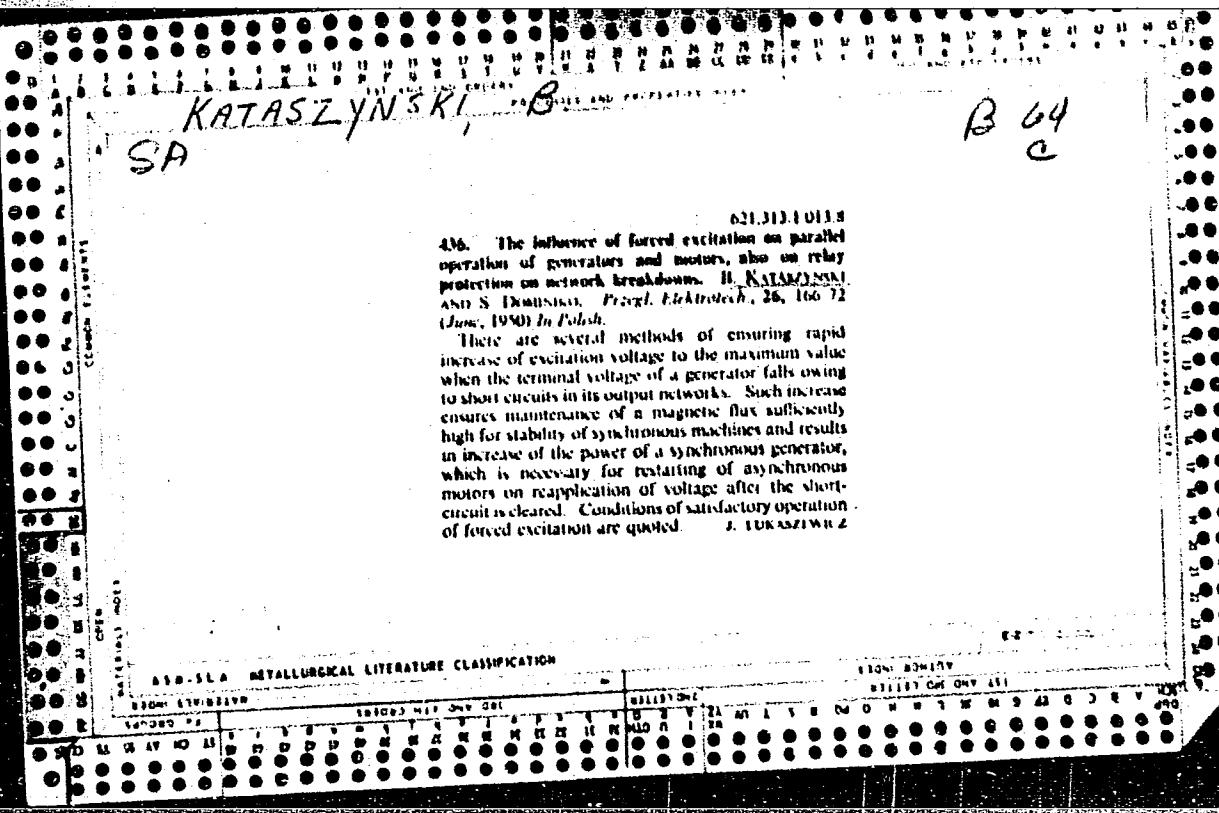
Axisymmetric deformations of an elastic half space covered with a membrane. Nauch. trudy MTILP no.28:302-307 '63.

(MFA 17:11)

1. Kafedra teorii mekhanizmov i mashin i teoreticheskoy mekhaniki  
Moskovskogo tekhnologicheskogo instituta lepkoy promyshlennosti.

KATASONOVA, Ye.G.

Formation of the structure of permanently frozen layers within  
the limits of the seasonally frozen layer. Trudy Inst.  
merzl. AN SSSR 17:25-33 '61. (MIRA 15:2)  
(Frozen ground)



KATATKIN, B. S.

Katatkin, B. S. - "On steel for welded bridges", Trudy po avtomat. svarke pod flyusom (In-t elektrosvarki im. Paton), Collection 2, 1948, p. 3-39,  
- Bibliog: 10 items, - To be continued.

SO: U-3261, 10 April 53, (Letopis 'Zhurnal 'nykh Statey, No. 12, 1949).

"APPROVED FOR RELEASE: 06/13/2000

CIA-RDP86-00513R000721110017-1

APPROVED FOR RELEASE: 06/13/2000

CIA-RDP86-00513R000721110017-1"

VILMON, Gyula, dr.; KATAY, Aladar, dr.

New forms of work organization and methods in epidemiology.  
Nepegeeszsegugy 36 no.1:9-15 Jan 55.

(EPIDEMIOLOGY

in Hungary, new forms & methods of work, sanitary-  
epidemiol. centers.)

KATAY, Aladar, dr.

Epidemiological work of public health - epidemiological centers.  
Nepegeszsegugy 37 no.4:92-95 Apr 56.

(PUBLIC HEALTH

in Hungary, sanitary-epidemiol. centers, epidemiol.  
activities. (Hun))

(EPIDEMIOLOGY

in Hungary, epidemiol. activities of sanitary-  
epidemiol. centers (Hun))

*Note, Agent*  
KATAY, Aladar

Our epidemiological situation and duties. Nepegeeszsegugy 38 no.10-11:  
247-258 Oct-Nov 57.

(EPIDEMIOLOGY

in Hungary, current state (Hun))

(MEDICINE, PREVENTIVE  
same)

KATAY, Aladar, dr.

Control of poliomyelitis in Hungary. Nepegeszseguey 41 no.12:341-  
348 D '60.

(POLIOMYELITIS prev & control)

PA 67T97

KATAYA, K. I.

Jun 1948

USSR/Mines and Mining  
Mining Methods  
Packings, Hydraulic

"Hydraulic Packing in the Karabashsk Shafts," K. I.  
Kataya, Mining Technician; V. A. Neschayev, Mining  
Engr, 4 $\frac{1}{2}$  pp

"Gor Zhur" No 6

Describes such basic concepts as the technology of  
hydraulic packing work, the subject method as ele-  
ment of the over-all operation of a mine, and as  
very important means of controlling subterranean  
fires.

67T97

LC

*Kataev, A.*

Subject : USSR/Aeronautics  
Card : 1/1  
Authors : Golubev, G. and Kataev, A.  
Title : Organization of flights for officer cadets  
Periodical : Vest. Vozd. Flota, 7, 36-42, Jl 1954  
Abstract : Contemporary methods of flying training organization on airfields are discussed. The author analyses such topics as airfield capacity, coefficients of starting time utilization, training on jet aircraft, etc. Some numerical data are given. Diagrams.  
Institution : None  
Submitted : No date

AID P - 302

OS'MININ, V.; KATAYEV, A.

Traffic organization and safety. Avt. transp. 41 no.6:55-  
56 Je '63. (MIRA 16:8)

KATAYEV, A.; KLINKOVSHTEYN, G.; OSTROVSKIY, N.

Traffic safety and organization. Avt. transp. 43 no.1:46-48  
Ja '65.  
(MIRA 18;3)

KATAYEV, A.F.

Torgovo-finansovyi plan khozraschetnogo magazina  
(Commercial and financial plan of a non-subsidized store).  
Moskva, TSentrosoiuz, 1952. 107 p.

SO: Monthly List of Russian Accessions, Vol. 7 No. 2 May 1954

KATAYEV, A.F.

Develop attentiveness in pilots. Vest.Vozd.Ml. no.6:  
51-55 Je '60. (MIRA 13:7)  
(Attention) (Air pilots)

KATAYEV, A.F. (Krasnodar)

Organization of attention at work. Vop. psikhол no.3:109-  
117 My-Je '63. (MIRA 17:2)

YELISEYEV, Vladimir Fedorovich; ZHILOV, Ivan Ivanovich; KATAYEV,  
Afanasiy Filippovich; PELEVINA, Irina Osipovna; SHUGAN, Viktor  
Ustinovich, kand. ekon. nauk, dots., red.; BILENKO, L.S., red.  
izd-va; SOTNIKOVA, N.F., tekhn. red.

[The economics and planning of Soviet cooperative trade]Ekonomika  
i planirovanie sovetskoi kooperativnoi torgovli. [By]V.F.Eliseev  
i dr. Moskva, Izd-vo TSentrosciiza, 1962. 354 p. (MIRA 16:3)  
(Cooperative societies)

USSR/Chemical Technology. Chemical Products and Their Application -- Lacquers.  
Paints. Drying oils, Siccatives, I-22

Abst Journal: Referat Zhur - Khimiya, No 2, 1957, 6201

Author: Katayev, A. I.

Institution: West Siberian Filiate of the Academy of Sciences USSR

Title: Drying Oil from Tall Oil

Original  
Publication: Tr. po les. kh-vu Zap.-sib. fil. AN SSSR Zap.-Sib. otd. VNIETOLES,  
1955, No 2, 295-298

Abstract: Characteristics of tall oil fatty acids are described and also a procedure for their processing to drying oil, which comprises four operations: rectification of the oil, esterification of the fatty acids with glycerol, dehydration of the resulting glycerides (according to the type of dehydration used for castor oil) and boiling of the drying oil. By the use of these drying oils it was possible to produce coatings of satisfactory quality that dried within 48 hours.

Card 1/1

MATYUSHKINA, A.P.; PETRONIO, V.N.; KOMSHILOV, N.F.; KATAYEV, A.I.

Stearins from tall oil pitch. Bum.prom. 33 no.11:19-21 N  
'58. (MIRA 13:8)

1. Segezhskiy ordena Lenina tsellyulocno-bumazhnnyy kombinat (for  
Matushkina, Petronio). 2. laboratoriya lesokhimii Karels'kogo  
filiala AN SSSR (for Komshilov, Katayev).  
(Stearin) (Tall oil)

REZNIKOV, V.M.; KATAYEV, A.I.

Charcoal from coniferous wood in the manufacture of carbon disulfide.  
Gidrolyz. i lesokhim.prom. 14 no.3:6-7 '61. (MIRA 14:4)

1. Sibirskiy tekhnologicheskiy institut.  
(Charcoal) (Wood---Chemistry) (Carbon disulfide)

KATAYEV, A.N., inzh.

Technological characteristics and practices in the building of  
hulls and superstructures of reinforced concrete ships from  
keramzit concrete and lithoidal pumice. Sudoastroenie 30  
no.12:44-45 D '64. (MFA 18:6)

KATAYEV, A.T.

Possibility of the use of veneer sheets of increased thickness in the production of all-compressed parts. Der. prom. 12 no.12:22-23 D '63. (MIRA 17:3)

RUSAKOV, Dmitriy Mikhaylovich; KATAYEV, Anatoliy Timofeyevich;  
DEMIN, Konstantin Konstantinovich; ROGACHEVSKAYA,  
Nina Kirillovna; PANKRASHOV, A.P., red.

[Multipurpose utilization of lumber] Kompleksnoe ispol'-  
zovanie drevesiny. Petrozavodsk, Karel'skoe knizhnoe izd-  
vo, 1963. 121 p.  
(MIRA 17:6)

KATAYEV, Anatoliy Timofeyevich; VINNIK, N.I., red.

[Technology of the manufacture and use of parts from  
molded wood particles in friction subassemblies] Tekh-  
nologija proizvodstva i primeneniia detalei iz dreves-  
noi press-kroshki v uzlakh treniia. Moskva, Legkaia  
promyshlennost', 1965. 54 p. (MIRA 18:7)

KATAYEV, B.A., inzhener.

Power-operated roller conveyer for delivering logs to the bark  
stripping machine. Mekh trud. rab. 10 no.1:38 Ja '56.(MLEA 9:5)  
(Conveying machinery)

KATAYEV, B.A., inzh.

Saw frame for cutting box planks. Der. prom. 7 no. 4:25-26 Ap '58.  
(MIRA 11:5)

1. Zavod "Volna revolyutsii," g. Novozybkov.  
(Sawmills)

KATAYEV, B.A., inzh.

New wood-wool making machines. Der.prom. 7 no.9:16 S '58.  
(MIRA 11:11)

1. Zavod "Volna revolyutsii."  
(Woodworking machinery)

KATALEV, B.A., inzh.

The R65-3-type single-stage saw frame. Der.prom. 8 no.1:16-  
17 Ja '59. (MIRA 12:1)

1. Zavod "Volna revolyutsii."  
(Sawmills)

KATAYEV, B. I. (Prof.); GLINKOV, M. A. (Prof.); NAZAROV, I. S. (Docent)

"General Principles of Furnaces Design," from the book Metallurgical Furnaces (Metallurgicheskiye Pechi) Metallurgizdat, 1951.

Doctor of Technical Sciences

24.6300

S/051/60/009/006/004/018  
E201/E191

AUTHORS: Mal'tsev, A.A., Katayev, D.I., and Tatevskiy, V.M.

TITLE: An Investigation of the Electronic Spectra and the Isotopic Shift of Compounds of Boron and Oxygen. III.  $\gamma$ -Bands of the BO Molecule

PERIODICAL: Optika i spektroskopiya, 1960, Vol.9, No.6, pp 713-720

TEXT: The electronic spectrum of BO has three band systems:  $\alpha$ -system in the 3100-8500 Å region,  $\beta$ -system in the 2100-3600 Å region, and  $\gamma$ -system discovered by Chretien and Miescher (Refs 15, 16) in the vacuum ultraviolet (1650-1860 Å), due to BO impurities in discharges in  $BF_3$  mixed with helium. Extending their earlier studies (Refs. 8,13), the present authors attempt to resolve contradictions in interpretation of the BO  $\gamma$ -bands by analysing the isotopic shift of band edges in samples enriched with  $B^{10}$ . A discharge tube with hot hollow cathode was used to excite the spectra of BO. A spectrograph АФС-5 (DFS-5) was used to record the  $\gamma$ -bands of  $B^{11}O$  and  $B^{10}O$  in the 1600-2090 Å region. The wavelengths were found by comparing them with atomic lines of boron, silicon and carbon. Fig.1 shows the spectra obtained in

Card 1/2

VC

S/051/60/009/006/004/018  
E201/E191

An Investigation of the Electronic Spectra and the Isotopic Shift  
of Compounds of Boron and Oxygen. III.  $\gamma$ -Bands of the BO  
Molecule

the 1500-2090 Å region for  $B^{11}O$  (the upper spectrum) and  $B^{10}O$   
(the lower spectrum). Fig.2 shows the 0--3 and 1--4 bands of the  
 $\gamma$ -system of BO. Tables 2 and 3 list the wave-numbers (in  $\text{cm}^{-1}$ )  
of the R<sub>2</sub>-branch band edges of  $B^{11}O$  (Table 2) and  $B^{10}O$  (Table 3).  
The molecular potentials of BO are shown in Fig.3. It was found  
that the  $\gamma$ -system is due to the transition  $C^2\text{II}-X^2\Sigma^+$ . A more  
accurate vibrational analysis of the spectrum was derived from the  
results and the vibrational constants of  $B^{11}O$  and  $B^{10}O$  were deduced  
(Table 4). A preliminary rotational analysis of five bands was  
carried out. Correlation between the electron states of BO and the  
atomic states of B and O was discussed. More accurate wave-  
lengths of the atomic lines of boron and silicon (1360-2090 Å) were  
obtained; they are listed in Table 1.

There are 3 figures, 3 tables and 31 references: 6 Soviet,  
13 English, 4 German, 3 Dutch, 1 Swedish, 2 Swiss, 1 Indian, and  
1 translation from English into Russian.

SUBMITTED: December 22, 1959  
Card 2/2

✓

ABROSIMOV, K.F., kand. tekhn. nauk; BROMBERG, A.A., prof.; KATAEV,  
F.P., kand. tekhn. nauk; BORODACHEV, I.P., kand. tekhn. nauk,  
retsenzent; NEMIROVSKIY, E.I., inzh., red.; SAVEL'IEV, Ye.Ya.,  
red.izd-va; UVAROVA,A.F., tekhn.red.; MODEL', B.I., tekhn.red.

[Machines for road construction; road, construction, hoisting  
and conveying machinery, trucks and tractors] Mashiny dlja  
stroitel'stva dorog; dorozhnye, stroitel'nye i podzemnotrannye  
sportnye mashiny, avtomobili i traktory. [By] K.F. Abrosimov,  
A.A. Bromberg, F.P.Kataev. Pod red. A.A.Bromberga. Moskva,  
Mashgiz, 1962. 510 p. (MIRA 16:3)

(Road machinery)

*KATAEV*  
SEREBRENNIKOV, V.V.; BUNIN, A.P., prof., otvetstvennyy red.; KATAYEV, G.A.,  
dots., red.; VOLKOV, B.V., tekhn.red.

[Chemistry of actinides; actinium, protactinium and transuranium  
elements] Khimia aktinidov; aktinii, protaktinii i transuranovye  
elementy. Tomsk, Izd-vo Tomskogo univ., 1956. 99 p. (MIRA 11:3)  
(Actinium) (Actinide series) (Protactinium)

KATAYEV, G.A.

Effect of the medium on the rate of heterogeneous oxidation-reduction reactions. Trudy TGU 145:25-32 '57. (MIRA 12:3)

1.Kafedra analiticheskoy khimii Tomskogo gosudarstvennogo universiteta imeni V.V. Kuybysheva.  
(Oxidation-reduction reaction)

KATAYEV, G. A.

AUTHOR: Kuchin, V. D., Candidate of Technical Sciences 50Y/105-58-7-22/32

TITLE: Conference on Solid Dielectrics and Semiconductors (Konferentsiya po tverdym dielektrikam i poluprovodnikam)

PERIODICAL: Elektrичество, 1958, Nr 7, pp. 83 - 84 (USSR)

ABSTRACT: The intermediate university conference was held from February 3<sup>rd</sup> to 8<sup>th</sup>, 1958, in the Tomsk Polytechnical Institute (Tomskiy politekhnicheskiy institut). Representatives of 12 universities, 10 scientific research institutes, and 11 plants of 14 towns attended this conference. 83 reports were delivered. The work of the conference was carried out in 6 sections. In the section of semiconductors spoke: Professor Yu.G.Tolstov (EMIN AS USSR, Moscow) about a new method for the determination of the work parameters in germanium power valves without destruction of the latter. Docent A.F. Gorodetskiy and Docent S.S.Gutin (Novosibirsk) found a temporary instability of the resistance in thin tellurium layers and a satisfactory stability of the germanium-and bismuth resistance. Docent G.A.Katayev and L.N.Rozanov (Tomsk University) reported on the mechanism of heterogeneous reactions which occur

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Conference on Solid Dielectrics and Semiconductors SOV105-58-7-22/32

under the participation of solid bodies. A.R.Zasypkina (SFTI) reported on the good rectifier properties of the "silver-polystyrene varnish-germanium- and the mercury-KCl-germanium system." D.K. Vessnovskiy and others, Novosibirsk Institute of Electrical Engineering (Novosibirskiy elekrotekhnicheskiy institut) developed "Automatic semiconductor devices with flat germanium triodes and photoresistances as transmitters." V.F.Sinorov (SFTI) reported on the experiments which confirm the existence of the surface acceptor level and the surface conductivity in compounds of the type A<sup>n</sup> B<sub>IV</sub>. Ye.I.Cheglokov and A.M.Vaysberg (SFTI) investigated the "bond lattice" and found that the effective mass of the light hole increases with the increase of the ionic component in the bond and becomes anisotropic. V.N.Vertoprakhov (SFTI) reported on a new method for the detection of the crystallographic planes from the discharge figures on the germanium surface. A.P.Vyatkin (SFTI) investigated "the rules governing the wetting of germanium with indium in dependence on the surface treatment of indium, the crystallographic orientation of germanium, and the heat maintenance in the case of melting. V.A.Chaldyshev investigated the energetic spectrum on the basis of a lattice model in connection with the

Card 2/4

Conference on Solid Dielectrics and Semiconductors SOV 105-58-7-22/32

sphalerite lattice. A.P.Izergin and others (SFTI) worked out "A method for the breeding of germanium monocrystals with even distribution of the admixtures from the melt without melting pot. Yu.D.Lukantsev, Frunze Kirghiz Institute of Pedagogics (Kirgizskiy pedinstitut, Frunze) investigated the rules governing the dying down of the intensity of phosphorescence, photoconductivity, and the light sum in the phosphorus ZnS-Cu in an ideal crystal phosphorus. From an investigation of the temperature dependence of the photodielectric effect in the phosphorus ZnS-CuFe during excitation and in the case of long stages of dying down of the phosphorescence of the latter P.Ye.Ramazanov (SFTI) makes conclusions as to the relaxation character of the processes which cause this effect." I.G.Mel'nik, Novosibirsk Institute of Electrical Engineering, reported on "A simple distribution chamber for a vacuum plant. Ye.I.Shuraleva, Irkutsk University (Irkutskiy universitet) reported on "the investigation of the influence of the electric and thermal treatment in the case of pure rock salt crystals," as well as on the influence of different concentrations of an activator introduced into the phosphorus NaCl.Ni according to the method of electrolysis on the formation processes of F-centers

Card 3/4

Conference on Solid Dielectrics and Semiconductors SOV105-58-7-22/32

and the storing of light sums under the action of X-rays.

ASSOCIATION: Tomskiy politekhnicheskiy institut (Tomsk Polytechnical Institute)

1. Dielectrics--USSR 2. Semiconductors--USSR 3. Conferences

Card 4/4

KATAEV, G.A.; SHPAYER, I.S.

Separation of certain impurities in metallic arsenic from its  
solutions by the extraction method. Izv.vys.ucheb.zav; khim.i  
khim.tekh. 4 no.5:723-726 '61. (MIRA 14:11)

1. Tomskiy gosudarstvennyy universitet imeni V.V. Kuybysheva,  
kafedra analiticheskoy khimii.

(Arsenic) (Metals)  
(Extraction (Chemistry))

L 13053-63

RWP(1)/EWT(1)/EWG(k)/EWT(m)/BDS/SEC(1) -2 APPENDIX

Pc-4/Pz-4 RM, AI, LCP, I,  
ACCESSION NR: AT3003003

S-2927/62 DM 22

AUTHOR: Katayev, G. A.; Presnov, V. A.; Cheglokov, Ye. I.; Zgayevskiy, ...  
Baturova, ...; ..., ...

TITLE: Effect of physicochemical conditions of surface on the parameters of germanium p-n junctions\* [Report of the All-Union Conference on Semiconductors and Their Application in Electronics, Tashkent, 1981]

SOURCE: Elektronno-dy\*rochny\*ye perekhody\* v poluprovodnikakh. Tashkent, Izd-vo AN UZSSR, 1982, 188-205

TOPIC TAGS: germanium transistor, germanium transistor stabilization.

ABSTRACT: Complex chemical and adsorption compounds determine the concentration and position of energy levels of impurity centers and also the recombination rate of carriers in the semiconductor. Therefore, the substances and their concentrations reported in the article were considered in the synthesis of chemically stabilized devices. Effect of different chemical agents of semiconductor devices was considered. The effect of organic dyes on the current-voltage characteristics of germanium transistors with emitters on line, d-methylaniline, aniline black, curcumine, etc.

Card 1, 2

L 13053-63

ACCESSION NO. 13053-63

Dr. V. I. A. S. Dr. Yu. M. The amine treatment brought about the following changes:  
(1) the reverse collector currents increase; (2) the reverse saturation currents decrease; (3) the reverse saturation currents depend on the type of amine used; (4) amine treatment makes the surface charge less negative. Detailed explanations of the mechanism of action of the amine treatment of elementary substances was given. It is shown that the increase in the surface density of states decreases the reverse saturation current and increases the collector current. The effect of the amine treatment of surfaces by RPE-401V and RME-1000 is investigated. Orig. art. has: 4 figures, 8 formulas, and 3 tables.

b3

ASSOCIATION: Akademiya nauk SSSR (Academy of Sciences SSSR) Akademiya nauk  
Uzbekskoy SSR (Academy of Sciences UzSSR) Tashkentskiy gosudarstvennyy universitet  
Tashkent State University)

SUBMITTED: 00 DATE ACQ: 15May63 ENCL: 00

SUB CODE: 00 NO REF Sov: 003 OTHER: 004

Card 2/2

L 18995-63  
JD/MAY/JG/AB

EPF(c)/EWT(m)/EWP(q)/BDS AFFTC/ASD Pr-4 RM/WW/

ACCESSION NR: AT3002455

S/2935/62/000/000/0211/0217

AUTHOR: Katayev, G. A.; Presnov, V. A.; Batuyeva, Ye. N.; Katayev, Yu. G.;  
Lyuze, L. I.

TITLE: Effect of adsorption of some amines by the semiconductor upon the fundamental parameters of germanium transistors [Conference on Surface Properties of Semiconductors, Institute of Electrochemistry, AN SSSR, Moscow, 5-6 June 1961]

SOURCE: Poverkhnostnye svoystva poluprovodnikov. Moscow, Izd-vo AN SSSR, 1962, 211-217

TOPIC TAGS: semiconductor, adsorption, amine adsorption, transistor, germanium transistor

ABSTRACT: The following aliphatic- and aromatic-series amines were used in the experiments as adsorbates: hexamethylene-diamine, triethylamine, ammonia, p-phenylenediamine, p-toluidine, dimethylaniline, benzidine, aniline, beta-naphthylamine, diphenylamine, aniline black. The results of adsorbing by type P-5 transistors are: (1) Reverse collector currents have decreased; (2) Gain has increased or decreased depending on the amine basicity; (3) Adsorption bond strength as judged by the time stability of the transistor parameters depends on the amine nature; (4) Surface charge has become "less negative". The above Card 1/2

L. 18995-63

ACCESSION NR: AT3002455

phenomena are explained by donor-acceptor interactions between the adsorbed molecules and Ge surface. Orig. art. has: 3 figures, 4 formulas, and 2 tables.

ASSOCIATION: Tomskiy gosudarstvennyy universitet im. V. V. Kuybyshcheva  
(Tomsk State University)

SUBMITTED: OO

DATE ACQ: 15May63

ENCL: 00

SUB CODE: PH

NO REF SOV: 003

OTHER: 005

Card2/2

ACCESSION NR: AR4015651

S/0081/63/000/021/0044/0044

SOURCE: RZh. Khimiya, Abs. 210281

AUTHOR: Katayev, G. A.; Rozanova, L. N.

TITLE: The problem of the chemical activity of germanium

CITED SOURCE: Tr. Tomskogo un-ta, v. 154, 1962, 119-121

TOPIC TAGS: germanium, germanium activity, germanium semiconductor, electron semiconductor, electron vacancy semiconductor, semiconductor activity

ABSTRACT: The study concerned the reaction kinetics of the n- and p-types of monocrystalline Ge with Cl in the presence of CCl<sub>4</sub> at temperatures of 70-98°C. It was found that the activation energy and the rate at which Ge reacts with Cl under these conditions were the same for electron or electron vacancy semiconductors. This indicates that the presence or absence of vacancies in a semiconductor under these conditions cannot determine its chemical activity. Authors' summary.

DATE ACQ: 09Dec63

SUB CODE: CH

ENCL: 00

Card 1/1

ACCESSION NR: AR4015634

S/0081/63/000/022/0081/0081

SOURCE: RZh. Khimiya, Abs. 22B507

AUTHOR: Katayev, G. A.; Rozenova, L. N.

TITLE: Behavior of germanium in alkaline solutions of hydrogen peroxide

CITED SOURCE: Tr. Tomskogo un-ta, v. 154, 1962, 122-127

TOPIC TAGS: germanium, germanium dissolution, hydrogen peroxide solvent, alkaline hydrogen peroxide solvent, germanium oxidation

TRANSLATION: The rate of solution of Ge in solutions of  $H_2O_2$  (4.96% by weight) containing NaOH (1-10%) is constant with time, the same for n- and p- type Ge, and depends on the concentration (C) of NaOH, reaching its maximum at C = 4.5%. The energy of activation of the reaction is 17.5 kilocalories per mole for C < 4.5% and 13.8 kilocalories per mole for C > 4.5%, independent of the type of conductivity of Ge. The equilibrium potential becomes negative with increasing C. The rate of solution calculated from polarization curves equals  $10^{-4} \text{ a/cm}^2$ , which is 1-2 orders of magnitude smaller than the actual rate of solution of Ge; the

Card: 1/2

ACCESSION NR: AR4015634

latter value does not change during polarization of the electrode. It was concluded that the solution of Ge in alkaline H<sub>2</sub>O<sub>2</sub> proceeds according to a chemical mechanism. Yu. Pleskov

DATE ACQ: 07Jan64

SUB CODE: CH

ENCL: 00

Card 2/2

ACCESSION NR: AR4015648

S/0081/63/000/021/0020/0020

SOURCE: Rzh. Khimika, Abs. 21B104

AUTHOR: Katayev, G. A.; Grigor'yeva, A. G.; Rozanova, L. N.

TITLE: The problem of growing monocrystalline flakes of gallium arsenide

CITED SOURCE: Tr. Tomskogo un-ta, v. 154, 1962, 193-194

TOPIC TAGS: gallium arsenide, monocrystalline gallium arsenide, single crystal growth, crystal growth temperature dependence, crystal growth technique

ABSTRACT: The study considers the effects of temperature conditions and of the introduction of gallium arsenide into the system Ga-As on the size of crystals obtained under such conditions. Near the melting point, this system was examined by analogy with emulsions, which become increasingly dispersed the higher the temperature. The degree of dispersion drops when the temperature is lowered. The following conditions must be observed in order to grow large monocrystals: 1) the aggregates in the system must already be sufficiently large during the pre-crystallization stage, since during this period the viscosity of the system increases sharply and the aggregation rate drops sharply; 2) crystallization must proceed at a slow rate, since otherwise, impurities will not be repelled and will be cap-

Card 1/2

ACCESSION NR: AR4015648

tured by the crystal lattice. The authors describe the temperature conditions necessary to obtain single crystal flakes about 2 cm long and 1 cm wide. The surface of a flake represents a plane (111). Excess gallium was initially removed mechanically, and then the flakes were processed in hydrochloric acid until the Ga was fully eliminated. The possibility of growing larger flakes by the simultaneous introduction of arsenide rods into the Ga-As system was studied. Tests were carried out in open quartz tubes, a quartz bucket holding the test specimen being placed at the bottom of the test tube. Ye. Korytnyy

DATE ACQ: 09Dec63

SUB CODE: CH

ENCL: 00

Card 2/2

ACCESSION NR: AT4028331

S/0000/63/000/000/0063/0067

AUTHOR: Katayev, G. A.; Rozanova, L. N.

TITLE: Kinetics of the reciprocal reaction of hydrogen peroxide with germanium

SOURCE: Soveshchaniye po khimii perekisnykh soyadineniy. Second, Moscow, 1961.  
Khimiya perekisnykh soyedineniy (chemistry of peroxide compounds); Doklady\*  
soveshchaniy. Moscow, Izd-vo AN SSSR, 1963, 63-67

TOPIC TAGS: hydrogen peroxide, germanium, reciprocal reaction, alkali solution,  
caustic soda, n-type germanium

ABSTRACT: The authors study the kinetics of germanium solubility in alkali solutions of hydrogen peroxide as well as the dissociation of hydrogen peroxide under the same conditions. A mixture of solutions of hydrogen peroxide and caustic soda were maintained in a thermostat for a predetermined period of time, then a plate of monocrystalline n-type germanium was introduced. The concentration of the remaining hydrogen peroxide was determined by means of the permanganate method before introduction of the sample and after the conclusion of the experiment. During germanium resolution, samples of the solution were selected for determining the amount of germanium entering into the solution. The germanium was determined

Cord1/2

ACCESSION NR: AT4028331

polarographically. The authors did not discover any effect of germanium on the dissociation process of hydrogen peroxide. The mechanism of the reaction between germanium and hydrogen peroxide differs depending on the presence or absence of an alkali. H<sub>2</sub>O<sub>2</sub> molecules represent the active particles in the absence of an alkali. The expressed correlation between the speed of the hydrogen peroxide dissociation and the speed of the germanium reaction with hydrogen peroxide is clearly evident in the presence of an alkali. Orig. art. has: 4 figures.

ASSOCIATION: Tomskiy gosudarstvennyy universitet im. V. V. Kuybyshcheva (Tomsk State University)

SUBMITTED: 13Dec63

DATE ACQ: 06Apr64

ENCL: 00

SUB CODE: CH

NO REF Sov: 002

OTHER: 000

Card 2/2

KATAYEV, G.A.; ZAKHAROVA, E.A.; OLEYNIK, L.I.

Determination of copper and lead microimpurities in arsenic and  
gallium arsenide. Metod. anal. khim. reak. i prepar. no. 5/6:102-  
104 '63. (MIRA 17:9)

1. Tomskiy politekhnicheskiy institut.

ROZANOVA, L.N.; KATAYEV, G.A.

Kinetics of the reaction of germanium dioxide with phosphoric acid. Zhur. neorg. khim. 8 no.11:2490-2492 N '63.  
(MIRA 17:1)

1. Tomskiy gosudarstvennyy universitet imeni V.V. Kuybysheva,  
kafedra analiticheskoy khimii.

S/075/63/018/003/002/006  
E071/E436

AUTHORS: Katayev, G.A., Otmakova, Z.I.

TITLE: A spectrographic method for the determination of microimpurities in gallium arsenide after preliminary enrichment

PUBLICATION: Zhurnal analiticheskoy khimii, v.18, no.3, 1963, 339-341

A method of determining microadmixtures of magnesium, copper, aluminum, bismuth, manganese, lead, cobalt, tin, and zinc in gallium arsenide was developed. It consists of extraction of gallium from 6 N HCl with isobutylacetate repeated 3 times, followed by the separation of As on cationite column (Dowex 50) which retains the impurities. These are eluted with 5 N HCl, eluate concentrated by evaporation and examined by emission spectroscopy. The spectroscopic procedure employed can be used for the analytical control of high purity gallium arsenide. There are 1 figure and 2 tables.

ASSOCIATION: Tomskiy gosudarstvennyy universitet im. V.V.Kuylysheva  
(Tomsk State University imeni V.V.Kuybysheva)

SUBMITTED: June 5, 1962  
Card 1/1

L 11411-63  
AFFTC/ASD

EWP(q)/EST(m)/BDS

JD

S/032/63/029/005/003/022

56

AUTHOR: Kataev, G.A. and Zakharova, E.A.

TITLE: The determination of ultramicroquantities of copper and lead impurities in high-purity arsenic utilizing amalgam polarography with a stationary mercury drop

PERIODICAL: Zavodskaya laboratoriya, v. 29, no. 5, 1963, 524-526

TEXT: The method described was worked out to determine ultramicroquantities of impurities in high-purity arsenic used in some semiconductors. The base electrolyte was 0.07M solution of acid calcium arsenate. The analysis took about 3 hours. The mean error was 15-20%. The maximum sensitivity of determination is  $2 \times 10^{-5}$  g Pb and  $3 \times 10^{-5}$  g Cu. There are 3 tables and figures.

ASSOCIATION: Tomskiy gosudarstvennyy universitet (Tomsk State University)

lm/ *[initials]*  
Card 1/1